## Listing of Claims

The below listing of claims will replace all prior versions of claims in the application.

Claims 1-22: Cancelled.

23. (Previously Presented) An accelerator circuit for accelerating the turn-on operation of a laser diode, the laser diode being connected to a current driver circuit providing a bias current to the laser diode, a control circuit being connected to the current driver circuit for controlling the bias current in response to a command signal indicative of the desired bias current level and the commanded power of the laser diode and a feedback signal indicative of the laser output power level, the control circuit including a compensation capacitor establishing the control loop bandwidth of the control circuit, the accelerator circuit comprising:

a comparator coupled to receive the command signal and the feedback signal, the comparator providing a first output signal having a first state when the feedback signal indicates that the laser diode has not reached the commanded power and having a second state when the feedback signal indicates that the laser diode has reached or exceeded the commanded power;

a timer circuit coupled to receive a first signal for turning on the laser diode, the timer circuit providing a second output signal having a first state for a preselected time duration when triggered by the first signal and having a second state at the expiration of the preselected time duration;

a first logic circuit coupled to receive the first output signal and the second output signal, the first logic circuit generating a control signal responsive to the first output signal and the second output signal; and

a current source, responsive to the control signal, for providing a boost current to the compensation capacitor of the control circuit;

wherein the first logic circuit provides the control signal having a first state operating to turn on the current source when the first output signal and the second output signal are in their respective first state, and the first logic circuit provides the control signal having a second state operating to turn off the current source when either the first output signal or the second output signal is in its respective second state.

24. (Original) The circuit of claim 23, wherein the first signal comprises a start laser signal provided by a host system instructing the laser driver circuit to turn on the laser diode.

25. (Original) The circuit of claim 23, wherein the timer circuit comprises a programmable timer providing a programmable time duration.

26. (Original) The circuit of claim 23, wherein the current source comprises a programmable current source providing a programmable value of boost current.

27. (Original) The circuit of claim 23, wherein the current source comprises a pulse-width-modulated current source providing a boost current having a first duty cycle.

28. (Original) The circuit of claim 27, wherein the pulse-width-modulated current source provides a boost current with a programmable duty cycle.

29. (Previously Presented) The circuit of claim 23, wherein the first logic circuit comprises an AND logic gate.

30. (Previously Presented) The circuit of claim 23, wherein the first logic circuit comprises an one-shot logic circuit.

31. (Previously Presented) The circuit of claim 30, wherein the first logic circuit comprises a reset-set flip-flop.

Claims 32-50: Cancelled.

51. (Previously Presented) A laser driver circuit for driving a laser diode, comprising:

a current-to-voltage converter for converting an output current of a photodiode into a feedback voltage, the photodiode monitoring the output power of the laser diode;

a differential amplifier coupled to receive the feedback voltage and a command signal indicative of a predetermined bias current level for driving the laser diode to a commanded power level, the differential amplifier providing an output signal indicative of the difference between the feedback signal and the command signal, the

differential amplifier including a compensation capacitor for determining a control loop bandwidth of the laser driver circuit;

a current driver circuit providing a bias current to the laser diode corresponding to the output signal from the differential amplifier; and

a turn-on accelerator circuit comprising:

a comparator coupled to receive the command signal and the feedback signal, the comparator providing a first output signal having a first state when the feedback signal indicates that the laser diode has not reached the commanded power and having a second state when the feedback signal indicates that the laser diode has reached or exceeded the commanded power;

a timer circuit coupled to receive a first signal for turning on the laser diode, the timer circuit providing a second output signal having a first state for a preselected time duration when triggered by the first signal and having a second state at the expiration of the preselected time duration;

a first logic circuit coupled to receive the first output signal and the second output signal, the first logic circuit generating a control signal responsive to the first output signal and the second output signal; and

a current source, responsive to the control signal, for providing a boost current to the compensation capacitor of the differential amplifier;

wherein the first logic circuit provides the control signal having a first state operating to turn on the current source when the first output signal and the second output signal are in their respective first state, and the first logic circuit provides the control signal having a second state operating to turn off the current source when either the first output signal or the second output signal is in its respective second state.

52. (Original) The circuit of claim 51, wherein the first signal comprises a start laser signal provided by a host system instructing the laser driver circuit to turn on the laser diode.

53. (Original) The circuit of claim 51, wherein the first logic circuit comprises an AND logic gate.

54. (Original) The circuit of claim 51, wherein the first logic circuit comprises an one-shot logic circuit.

55. (Original) The circuit of claim 54 wherein the first logic circuit comprises a reset-set flip-flop.

Claims 56-65: Cancelled.

66. (Previously Presented) A method for turning on a laser diode, the laser diode being controlled by a control loop including a compensation capacitor for establishing the bandwidth of the control loop, the method comprising:

receiving a first signal for turning on the laser diode;

generating a second signal having a first state for a predetermined time duration when triggered by the first signal and having a second state at the expiration of the predetermined time duration;

receiving a command signal indicative of a predetermined bias current level for driving the laser diode to a commanded power level;

receiving a feedback signal indicative of the laser output power level;

comparing the feedback signal to the command signal;

generating a third signal having a first state when the feedback signal indicates that the laser diode has not reached the commanded power and having a second state when the feedback signal indicates that the laser diode has reached or exceeded the commanded power;

generating a control signal responsive to the second signal and the third signal, the control signal having a first state when the second signal and the third signal are in their respective first state, and the control signal having a second state when either the second signal or the third signal is in its respective second state;

providing a current to the compensation capacitor when the control signal is in the first state; and

terminating the current to the compensation capacitor when the control signal is in the second state.

67. (Original) The method of claim 66, wherein generating a control signal responsive to the second signal and the third signal comprises:

performing a logical "AND" operation on the second signal and the third signal to generate the control signal.

Claims 68-70: Cancelled.

71. (Currently Amended) An accelerator circuit for accelerating the turn-on operation of a laser diode, the laser diode being connected to a current driver circuit providing a bias current to the laser diode, a control circuit being connected to the current driver circuit for controlling the bias current in response to a command signal indicative of the desired bias current level and the commanded power of the laser diode and a feedback signal indicative of the laser output power level, the control circuit including a compensation capacitor establishing the control loop bandwidth of the control circuit, the accelerator circuit comprising:

a laser turn-on control circuit coupled to receive a first signal for turning on the laser diode when the laser diode has been turned off, the laser turn-on control circuit providing a control signal having a first state indicative of a first condition for turning on the laser diode and a second state indicative of a second condition; and

a current source, responsive to the control signal, for providing a boost current to the compensation capacitor of the control circuit,

wherein the laser turn-on control circuit provides the control signal having the first state for turning on the current source, and the laser turn-on control circuit provides the control signal having the second state for turning off the current source and ~~The circuit of claim 68,~~ wherein the laser turn-on control circuit comprises:

a comparator coupled to receive the command signal and the feedback signal, the comparator providing a first output signal having a first state when the feedback signal indicates that the laser diode has not reached the commanded power and having a second state when the feedback signal indicates that the laser diode has reached or exceeded the commanded power;

a timer circuit coupled to receive the first signal for turning on the laser diode, the timer circuit providing a second output signal having a first state for a preselected time duration when triggered by the first signal and having a second state at the expiration of the preselected time duration; and

a first logic circuit coupled to receive the first output signal and the second output signal, the first logic circuit generating the control signal responsive to the first output signal and the second output signal,

wherein the first logic circuit provides the control signal having the first state operating to turn on the current source when the first output signal and the second output signal are in their respective first state, and the first logic circuit provides the control signal having the second state operating to turn off the current source when either the first output signal or the second output signal is in its respective second state.

Claims 72-74: Cancelled.

75. (Currently Amended) A laser driver circuit for driving a laser diode, comprising:

a current-to-voltage converter for converting an output current of a photodiode into a feedback voltage, the photodiode monitoring the output power of the laser diode;

a differential amplifier coupled to receive the feedback voltage and a command signal indicative of a predetermined bias current level for driving the laser diode to a commanded power level, the differential amplifier providing an output signal indicative of the difference between the feedback signal and the command signal, the differential amplifier including a compensation capacitor for determining a control loop bandwidth of the laser driver circuit;

a current driver circuit providing a bias current to the laser diode corresponding to the output signal from the differential amplifier; and

a turn-on accelerator circuit comprising:

a laser turn-on control circuit coupled to receive a first signal for turning on the laser diode when the laser diode has been turned off, the laser turn-on control circuit providing a control signal having a first state indicative of a first condition for turning on the laser diode and a second state indicative of a second condition; and

a current source, responsive to the control signal, for providing a boost current to the compensation capacitor of the differential amplifier,

wherein the laser turn-on control circuit provides the control signal having the first state for turning on the current source, and the laser turn-on control circuit provides the control signal having the second state for turning off the current source, and ~~The circuit of claim 72,~~ wherein the laser turn-on control circuit comprises:

a comparator coupled to receive the command signal and the feedback signal, the comparator providing a first output signal having a first state when the feedback signal indicates that the laser diode has not reached the commanded power and having a second state when the feedback signal indicates that the laser diode has reached or exceeded the commanded power;

a timer circuit coupled to receive the first signal for turning on the laser diode, the timer circuit providing a second output signal having a first state for a preselected time duration when triggered by the first signal and having a second state at the expiration of the preselected time duration; and

a first logic circuit coupled to receive the first output signal and the second output signal, the first logic circuit generating the control signal responsive to the first output signal and the second output signal,

wherein the first logic circuit provides the control signal having the first state operating to turn on the current source when the first output signal and the second output signal are in their respective first state, and the first logic circuit provides the control signal having the second state operating to turn off the current source when either the first output signal or the second output signal is in its respective second state.

Claims 76-78: Cancelled.

79. (Previously Presented) A method for turning on a laser diode, the laser diode being controlled by a control loop including a compensation capacitor for establishing the bandwidth of the control loop, the method comprising:

receiving a first signal having a first state for turning on the laser diode when the laser diode has been turned off and a second state for turning off the laser diode;

generating a control signal responsive to the first signal, the control signal having a first state indicative of a first condition for turning on the laser diode and a second state indicative of a second condition;

providing a current to the compensation capacitor when the control signal is in the first state; and

terminating the current to the compensation capacitor when the control signal is in the second state;

~~The method of claim 76 further comprising:~~

generating a second signal having a first state for a predetermined time duration from the first signal having the first state and having a second state at the expiration of the predetermined time duration;

receiving a command signal indicative of a predetermined bias current level for driving the laser diode to a commanded power level;

receiving a feedback signal indicative of the laser output power level;

comparing the feedback signal to the command signal; and

generating a third signal having a first state when the feedback signal indicates that the laser diode has not reached the commanded power and having a second state when the feedback signal indicates that the laser diode has reached or exceeded the commanded power,

wherein generating the control signal comprises:

generating the control signal responsive to the second signal and the third signal, the control signal having the first state when the second signal and the third signal are in their respective first state, and the control signal having the second state when either the second signal or the third signal is in its respective second state.